GEOSPATIAL METADATA
DEFINITIONS and GUIDELINES

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METADATA GUIDELINES

GENERAL INFORMATION/INSTRUCTIONS

This document does not presume a particular software implementation of metadata (or a particular tool/method of metadata collection). It is simply a display of metadata fields that have been deemed to be required in order to have an FGDC-compliant metadata record and descriptions of those fields. Certain software tools may place other restrictions on data entry that are not dealt with in this document. Any implementation/tool questions should be directed to your State/Center Data Administrator.

This document contains a template and detailed descriptions for metadata entry. These detailed descriptions provide definitions of each entry to be made and provide sample entries in many cases. Supplemental information can be found in the Federal Geographic Data Committee's (FGDC) Content Standards for Digital Geospatial Metadata (www.fgdc.gov/metadata). Each detailed description contains a cross-reference to the relevant FGDC section(s). Please refer to these descriptions and cross-referenced sections for assistance when creating a spatial metadata file. If the descriptions and those contained in the FGDC cross-references do not answer your questions, please contact your State/Center Data Administrator for assistance. Remember that the FGDC Metadata Standard is quite complex and all possible variations cannot be shown in a template of this sort.

HINTS AND TIPS

Dataset - Metadata files are to be created for each "dataset". A dataset is any "thing" you want to maintain documentation about. This could be a GIS layer, a database, an aerial photography series, a published map, etc.

Spatial/Non-Spatial - The FGDC metadata standard was written specifically for geospatial data. Thus, some fields and some possible answers to fields do not make much sense when applied to non-spatial data (i.e. traditional alphanumeric database). These may not always be clearly shown in the template or descriptions. In general, most of the chapters on Spatial Data Organization and Spatial Reference do not have meaning for non-spatial data sets. This is not, however, always true and each data set needs to be considered in light of the requirements of those chapters on a case-by-case basis.

Numbering - The FGDC reference numbers in the descriptions conform to the Federal Geographic Data Committee's (FGDC) Content Standard for Geospatial Metadata. The sections that are further subdivided are shown in **bold**. If there is no further subdividing of the section, then the title of the subsection will be hyperlinked to the description of that item. The FGDC reference numbers are shown for all data elements in the detailed descriptions.

Required/Recommended - All items that have been determined to be required are listed as {required} in the template. A few are marked as {required, if applicable}. These are generally those that may not apply to non-spatial data sets. Those items that are not required but would be a good idea if the data is available are listed in the template as {recommended}. However, **in any case it is best to leave a field blank or answer "unknown" rather than taking a guess.**

Either/Or - There are several places where either one entry or another is required. Please be careful and make only the appropriate entry in those cases.

Updates - As changes occur in the data, the metadata entry for the relevant data set must be updated. For instance, if new software versions are installed, then that entry must be changed in the metadata. If the data steward retires, then a new data-steward name must be entered. Each time these changes are made, the Metadata Reference section must also be edited to show the latest revision date.

Dates - Although throughout this document date formats are shown as YYYYMMDD (the FGDC prescribed format), many software tools allow date entries in other formats and use of those formats is acceptable.

Note of Thanks - Special thanks to RTSE, USA for allowing the use of some of their descriptions of metadata fields in this document.

<div align="center">**METADATA TEMPLATE**</div>

<u>Identification Information</u>

Citation
  Citation Information
    <u>Originator</u>: {required}
    <u>Publication Date</u>: {required}
    <u>Title</u>: {required}
Description
  <u>Abstract</u>: {required}
  <u>Purpose</u>: {required}
  <u>Supplemental Information</u>: {recommended}
Time Period of Content
  Time Period Information
    Single/Multiple/Range of Dates
      <u>Beginning Date (range)</u>: {recommended}
      <u>Ending Date (range)</u>: {recommended}
  <u>Currentness Reference</u>: {required}
Status
  <u>Progress</u>: {required}
  <u>Maintenance and Update Frequency</u>: {required}
Spatial Domain
  Bounding Coordinates
    <u>West Bounding Coordinate</u>: {required}
    <u>East Bounding Coordinate</u>: {required}
    <u>North Bounding Coordinate</u>: {required}
    <u>South Bounding Coordinate</u>: {required}
Keywords
  Theme
    <u>Theme Keyword Thesaurus</u>: {required}
    <u>Theme Keyword</u>: {required}
  Place
    <u>Place Keyword Thesaurus</u>: {required}
    <u>Place Keyword</u>: {required}
<u>Access Constraints</u>: {required}
<u>Use Constraints</u>: {required}
Point of Contact
  Contact Information
    Contact Person Primary
      <u>Contact Person</u>: {required}
      <u>Contact Organization</u>: {required}
    <u>Contact Position</u>: {recommended}

Contact Address
 Address Type: {required}
 Address: {required}
 City: {required}
 State or Province: {required}
 Postal Code: {required}
 Country: recommended
Contact Voice Telephone: {required}
Contact TDD/TTY Telephone: {recommended}
Contact Facsimile Telephone: {recommended}
Contact Electronic Mail Address: {recommended}
Hours of Service: {recommended}
Contact Instructions: {recommended}
Native Data Set Environment: {recommended}

IDENTIFICATION INFORMATION - Basic information about the data set.
 FGDC Reference: 1.0

 Citation - The recommended reference to be used for the data set.
 FGDC Reference: 1.1/Section 8

  Originator: The name of the organization or individual which developed the data set. For data created by the BLM, this reference should be to the organization and not to an individual. Example: Bureau of Land Management, Medford District.
  FGDC Reference: 1.1/8.1

  Publication Date: The date when the data set is published or otherwise made available for release. This would be the date when a data set starts to be used in an operational setting or for decision making purposes. During development of the data standard, this date may not be known. Allowable entries are "Unknown", "Unpublished", or a date in the following format: YYYYMMDD (enter only those portions of the date for which you have information).
  FGDC Reference: 1.1/8.2

  Title: The name by which the data set is known. The title should be relatively short (a title, not a description). Names should be structured to begin with the primary topic of the data set, can include a few descriptive terms, and should end a location identifier. Do not use abbreviations that are not universally known. For example: "Bighorn Sheep Winter Range CA", "Raptor Nest Sites Database WY", "Aerial Photography Cyclical OR" [without a title you have no

data set so answering "unknown" or leaving blank is not acceptable for this field]
FGDC Reference: 1.1/8.4

Description - A characterization of the data set, including its intended use and limitations.
FGDC Reference: 1.2

Abstract: A brief narrative summary of the data set. Describe in general terms what this data set portrays and the type of data (attributes) associated with it. Example: "This theme contains polygons of Big Horn Sheep distribution with attributes for season of use, key value, occupancy, and others (see Entity/Attribute section)".
FGDC Reference: 1.2.1

Purpose: A summary of the intentions with which the data set was developed. Why was the data set created? What business functions does this data set support? Example: "This data set was developed to support land-use planning and site-specific project planning".
FGDC Reference: 1.2.2

Supplemental Information: Other descriptive information about the data set not covered elsewhere.   This is a good place to define abbreviations that you use elsewhere in the metadata.
FGDC Reference: 1.2.3

Time Period of Content - The time period(s) for which the data set corresponds to the ground. The attributes needed for the "Range of Dates" is shown. If you want to use the "Single Date" or "Multiple Dates" attributes, refer to the FGDC standard for correct usage.
FGDC Reference: 1.3 and 9.3

Beginning Date: The first year (and optionally month, or month and day) of the data set. Allowable entries are "Unknown" or any date (in the format: YYYYMMDD).
FGDC Reference: 9.3.1

Ending Date: The last year (and optionally month, or month and day) for the data set. Allowable entries are "Unknown", "Present", or any date equal to or later than the beginning date (in the format: YYYYMMDD).
FGDC Reference: 9.3.3

Currentness Reference: Information about the currentness of a data set (that is, information about how "up-to-date" is a data set) is important to many, if not most, potential users. Most users are interested in the currentness of a data set related to the "ground condition" (that is, when the "real world" looked the way it is described in the data set). Unfortunately, sometimes only the time that the information was recorded or published is known. The "Currentness Reference" element requires the producer to identify if the "Time Period of Content" dates and times refer to the ground condition, or some later time when the information was required, published, etc.
FGDC Reference: 1.3.1

Status - The status of, and maintenance information for, the data set.
FGDC Reference: 1.4

Progress: The status of the data set. Is it complete, partially complete, or planned. Allowable entries are "Complete", "In Work", and "Planned".
FGDC Reference: 1.4.1

Maintenance and Update Frequency: The frequency with which changes and additions are made to the data set after the initial creation of the data set. Allowable entries are "Continually", "Daily", "Weekly", "Monthly", "Annually", "Unknown", "As needed", "Irregular", "None planned". If none of these entries properly describe the maintenance and update frequency for the data set, enter text which is more descriptive.
FGDC Reference: 1.4.2

Spatial Domain - The geographic areal domain (or extent) of the data set.
FGDC Reference: 1.5

West Bounding Coordinate: The coordinate of the westernmost external limit of the data set expressed in longitude (decimal degrees).
FGDC Reference: 1.5.1.1

East Bounding Coordinate: The coordinate of the easternmost external limit of the data set expressed in longitude (decimal degrees).
FGDC Reference: 1.5.1.2

North Bounding Coordinate: The coordinate of the northernmost external limit of the data set expressed in latitude (decimal degrees).
FGDC Reference: 1.5.1.3

South Bounding Coordinate: The coordinate of the southernmost external limit of the data set expressed in latitude (decimal degrees).
FGDC Reference: 1.5.1.4

Keywords - Words or phrases summarizing an aspect of the data set. Keywords are a primary means of searching metadata so taking some extra care in listing keywords can pay big dividends later.
FGDC Reference: 1.6

Theme Keyword Thesaurus: A reference to an authoritative source of keywords. Use the "BLM-Theme" Keyword Thesaurus (see Appendix A) for at least one keyword.
FGDC Reference: 1.6.1.1

Theme Keyword(s): Common-use word or phrase describing the subject of the data set. At a minimum, one of the keywords from Attachment A is to be used. Additional keywords may also be listed.
FGDC Reference: 1.6.1.2

Place Keyword Thesaurus: A reference to an authoritative source of keywords. Use the "BLM-Place" Keyword Thesaurus (see Appendix A) for at least one keyword. Another examples would be the USGS Geographic Place Names (GNIS).
FGDC Reference: 1.6.2.1

Place Keyword(s): The geographic name of a location covered by a data set. This could be a large area, such as "Pacific Northwest", "Oregon", "Northern California" or a project area, such as "Leslie Gulch" or "Applegate Watershed". May be repeated. At a minium, the geographic state must be listed.
FGDC Reference: 1.6.2.2

Access Constraints**:** Restrictions and legal prerequisites for accessing the data set. These include any access constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the data set. Identify the data set as being Discretionary or Nonpublic. If in doubt, consult your Records Administrator. See Appendix B for standard entries to use for this element.
FGDC Reference: 1.7

Use Constraints: Restrictions and legal prerequisites for using the data set after access is granted. These include any use constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the data set. If no restrictions apply, enter "None." If in doubt, consult your Records Administrator.
FGDC Reference: 1.8

Point of Contact (Data Steward) - Person/Organization that is knowledgeable about the data set. This would be the data steward or data-steward team that is responsible for the data.
FGDC Reference: 1.9/10.0

Contact Person: The person knowledgeable about the data in the data set. This could be the team lead/chairperson of a data-steward team. Enter first name and last name. Example: John Doe.
FGDC Reference: 1.9/10.1.1

Contact Organization: The name of the organization knowledgeable about the data. This could be the name of a data-steward team.
FGDC Reference: 1.9/10.1.2

Contact Position: The title of the person knowledgeable about the data.
FGDC Reference: 1.9/10.3

Address Type: The information provided by the address. Is the address the mailing, physical, or both types of addresses. Entries must be either "Mailing address", "Physical address", or "Mailing and physical address."
FGDC Reference: 1.9/10.4.1

Address: An address line for the address. Use as many lines as are necessary to provide the complete address.
FGDC Reference: 1.9/10.4.2

City: The city of the address.
FGDC Reference: 1.9/10.4.3

State or Province: The State of the address. Use postal 2 character code (e.g., OR=Oregon, WA=Washington, CA=California).
FGDC Reference: 1.9/10.4.4

Postal Code: The postal zip code of the address. May be either 5 or 10 alphanumeric-character code (99999-9999).
FGDC Reference: 1.9/10.4.5

Country: The country of the address. For BLM this would be USA.
FGDC Reference: 1.9/10.4.6

Contact Voice Telephone: The telephone number by which individuals can speak to the organization or individual knowledgeable about the data (including area code). Example: (503) 952-6009.
FGDC Reference: 1.9/10.5

Contact TDD/TTY Telephone: The telephone number by which hearing-impaired individuals can contact the organization or individual.
FGDC Reference: 1.9/10.6

Contact Facsimile Telephone: The telephone number of a facsimile machine of the organization or individual.
FGDC Reference: 1.9/10.7

Contact Electronic Mail Address: The address of the electronic mailbox of the organization or individual.
FGDC Reference: 1.9/10.8

Hours of Service: time period when individuals can speak to the organization or individual.
FGDC Reference: 1.9/10.9

Contact Instructions: Supplemental instructions on how or when to contact the individual or organization.
FGDC Reference: 1.9/10.10

Native Data Set Environment: A description of the processing environment in which the data set resides. This is a hardware/software description such as "Unix/Arc Info" or "Windows NT/Arc View"
FGDC Reference: 1.13

Data Quality Information

Attribute Accuracy
    Attribute Accuracy Report: {required}
Logical Consistency Report: {required, if applicable}
Completeness Report: {required}
Positional Accuracy
    Horizontal Positional Accuracy
        Horizontal Positional Accuracy Report: {required, if applicable}
    Vertical Positional Accuracy
        Vertical Positional Accuracy Report: {required, if applicable}
Lineage
    Source Information
        Source Citation
            Citation Information
                Originator: {required}
                Publication Date: {required}
                Title: {required}
            Source Scale Denominator: {required, if applicable}
            Type of Source Media: {required}
        Source Time Period of Content
            Time Period Information
                Single/Multiple/Range of Dates
                    Beginning Date: {required}
                    Ending Date: {required}
                Source Currentness Reference: {required}
            Source Citation Abbreviation: {required}
            Source Contribution: {required}
    Process Step
        Process Description: {required}
        Process Date: {required}
        Process Contact
            Contact Information
                Contact Person Primary
                    Contact Person: {recommended}
                    Contact Organization: {recommended}
                Contact Position: {recommended}
                Contact Address
                    Address Type: {recommended}
                    Address: {recommended}
                    City: {recommended}
                    State or Province: {recommended}
                    Postal Code: {recommended}

Country: {recommended}
Contact Voice Telephone: {recommended}
Contact TDD/TTY Telephone: {recommended}
Contact Facsimile Telephone: {recommended}
Contact Electronic Mail Address: {recommended}
Hours of Service: {recommended}
Contact Instructions: {recommended}
Cloud Cover: {recommended}

DATA QUALITY INFORMATION - A general assessment of the quality of the data set.
FGDC Reference: 2.0

Attribute Accuracy - An assessment of the accuracy of the identification of entities and assignment of attribute values in the data set, as documented in the Attribute Accuracy Report.
FGDC Reference: 2.1

Attribute Accuracy Report: An explanation of the accuracy of the identification of the entities and assignments of values in the data set and a description of any tests used.
FGDC Reference: 2.1.1

Logical Consistency Report: A description of the relationship of the spatial objects within the data set. An explanation of the integrity of the relationships in the data set and the tests used. For example: are there gaps in lines; are polygons closed? [only applicable to spatial data sets]
FGDC Reference: 2.2

Completeness Report: A description of how complete the data set is, information about omissions, selection criteria, generalization, definitions used, and other rules used to derive the data set. Example: "Data were collected and digitized for only those townships in which there was BLM ownership."
FGDC Reference: 2.3

Positional Accuracy - An assessment of the accuracy of the positions of spatial objects.
FGDC Reference: 2.4

Horizontal Positional Accuracy Report: An explanation of the accuracy of the horizontal coordinate measurements and a description of the tests used to determine that accuracy. Required only for those data sets that contain coordinates (either spatial or alphanumeric).
FGDC Reference: 2.4.1.1

Vertical Positional Accuracy Report: An explanation of the accuracy of the vertical coordinate measurements and a description of the tests used to determine that accuracy. Required only for those data sets that contain a vertical component.
FGDC Reference: 2.4.2.1

Lineage - Information about the events, parameters, and source data which made up the data set, and information about responsible parties.
FGDC Reference: 2.5

Source Citation - Reference for source data.
FGDC Reference: 2.5.1.1/8.0

Originator: The name of the organization or individual that developed the data.
FGDC Reference: 8.1

Publication Date: The date when the data is published or otherwise made available for release. Date to be entered as: YYYYMMDD.
FGDC Reference: 8.2

Title: The name by which the source data is known. Example: "USGS Digital Line Graphs".
FGDC Reference: 8.4

Source Scale Denominator: The denominator of the representative fraction on a source map (e.g., 1:24,000 is listed as 24000).
FGDC Reference: 2.5.1.2

Type of Source Media: The medium of the source data. Examples include: "paper", "stable-base material", "CD-ROM", "magnetic tape". See the FGDC standard for additional choices. If media on which the source was received is not listed, enter whatever the media was.
FGDC Reference: 2.5.1.3

Source Time Period of Content - Time period(s) for which the source data corresponds to the ground. The attributes needed for the "Range of Dates" is shown. If you want to use the "Single Date" or "Multiple Dates" attributes, refer to the FGDC standard for correct usage.
FGDC Reference: 2.5.1.4

Beginning Date: The first year (and optionally month, or month and day) of the event. Date to be entered as: YYYYMMDD.

FGDC Reference: 9.3.1

Ending Date: The last year (and optionally month, or month and day) for the event. Date to be entered as: YYYYMMDD.
FGDC Reference: 9.3.3

Source Currentness Reference: The basis on which the time-period-of-content information of the source data is determined (examples: "ground condition", "publication date").
FGDC Reference: 2.5.1.4.1

Source Citation Abbreviation: Short-form alias for the source citation.
FGDC Reference: 2.5.1.5

Source Contribution: A brief statement identifying the information contributed by the source data. Example: "Data source provided digital lines for the road transportation network".
FGDC Reference: 2.5.1.6

Process Step - Information about a single event. Repeat as often as needed to represent significant processing steps. At a minimum, entries should address Initial Compilation, Data Conversions, Quality-Control Steps, Special Processes, and Updates.
FGDC Reference: 2.5.2

Process Description: An explanation of the event and related parameters or tolerances.
FGDC Reference: 2.5.2.1

Process Date: The date when the event was completed. Date to be entered as: YYYYMMDD.
FGDC Reference: 2.5.2.3

Process Contact - Information about the person that is knowledgeable about the process that was performed on the data set. May or may not be the same person as the data steward.
FGDC Reference: 2.5.2.6/10.0

Contact Person: The person knowledgeable about the process. Enter first name and last name. Example: John Doe.
FGDC Reference: 2.5.2.6/10.1.1

Contact Organization: The name of the organization

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knowledgeable about the process.
FGDC Reference: 2.5.2.6/10.1.2

Contact Position: The title of the person knowledgeable about the process.
FGDC Reference: 2.5.2.6/10.3

Address Type: The information provided by the address. Is the address the mailing, physical, or both types of addresses. Entries must be either "Mailing address", "Physical address", or "Mailing and physical address."
FGDC Reference: 2.5.2.6/10.4.1

Address: An address line for the address. Use as many lines as are necessary to provide the complete address.
FGDC Reference: 2.5.2.6/10.4.2

City: The city of the address.
FGDC Reference: 2.5.2.6/10.4.3

State or Province: The State of the address. Use postal 2 character code (e.g., OR=Oregon, WA=Washington, CA=California).
FGDC Reference: 2.5.2.6/10.4.4

Postal Code: The postal zip code of the address. May be either 5 or 10 alphanumeric-character code (99999-9999).
FGDC Reference: 2.5.2.6/10.4.5

Country: The country of the address. For BLM this would be USA.
FGDC Reference: 2.5.2.6/10.4.6

Contact Voice Telephone: The telephone number by which individuals can speak to the organization or individual knowledgeable about the process (including area code).
Example: (503) 952-6009.
FGDC Reference: 2.5.2.6/10.5

Contact TDD/TTY Telephone: The telephone number by which hearing-impaired individuals can contact the organization or individual.
FGDC Reference: 2.5.2.6/10.6

Contact Facsimile Telephone: The telephone number of a facsimile machine of the organization or individual.
FGDC Reference: 2.5.2.6/10.7

Contact Electronic Mail Address: The address of the electronic mailbox of the organization or individual.
FGDC Reference: 2.5.2.6/10.8

Hours of Service: Time period when individuals can speak to the organization or individual.
FGDC Reference: 2.5.2.6/10.9

Contact Instructions: Supplemental instructions on how or when to contact the individual or organization.
FGDC Reference: 2.5.2.6/10.10

Cloud Cover: The amount of the data set obstructed by clouds, expressed as a percentage of the spatial extent. Used if the data source is aerial photography, satellite imagery, or other remotely sensed data where cloud cover would be an important consideration
FGDC Reference: 2.6

<u>Spatial Data Organization Information</u>

    <u>Indirect Spatial Reference</u>: {recommended}
    <u>Direct Spatial Reference Method</u>: {required, if applicable}

SPATIAL DATA ORGANIZATION INFORMATION - The mechanisms used to represent spatial information in the data set.
FGDC Reference: 3.0

    <u>Indirect Spatial Reference</u>: Name of type of geographic features, addressing schemes, or other means through which locations are referenced in the data set. That is, a description of the location which does not use coordinates. An example would be street addresses.
    FGDC Reference: 3.1

    <u>Direct Spatial Reference Method</u>: The system of objects used to represent space in the data set. Allowable entries: "Point", "Vector", "Raster".
    FGDC Reference: 3.2

<u>Spatial Reference Information</u>

Horizontal Coordinate System Definition:
   Planar:
      Map Projection: [or Grid Coordinate System]
         <u>Map Projection Name</u>: {required, if applicable}
           <u>Standard Parallel</u>: {required}
           <u>Standard Parallel</u>: {required}
           <u>Longitude of Central Meridian</u>: {required}
           <u>Latitude of Projection Origin</u>: {required}
           <u>False Easting</u>: {required}
           <u>False Northing</u>: {required}
      Grid Coordinate System: [or Map Projection]
         <u>Grid Coordinate System Name</u>: {required, if applicable}
         Universal Transverse Mercator: [or State Plane]
           <u>UTM Zone Number</u>: {required}
          State Plane Coordinate System: [or UTM]
           <u>SPCS Zone Identifier</u>: {required}
      Planar Coordinate Information:
         <u>Planar Coordinate Encoding Method</u>: {required, if applicable}
         Coordinate Representation:
           <u>Abscissa Resolution</u>: {required}
           <u>Ordinate Resolution</u>: {required}
         <u>Planar Distance Units</u>: {required}
   Geodetic Model:
      <u>Horizontal Datum Name</u>: {required, if applicable}
      <u>Ellipsoid Name</u>: {required}
      <u>Semi-major Axis</u>: {required}
      <u>Denominator of Flattening Ratio</u>: {required}
Vertical Coordinate System Definition:
Altitude System Definition:
      <u>Altitude Datum Name</u>: {recommended, if applicable}
      <u>Altitude Resolution</u>: {recommended}
      <u>Altitude Distance Units</u>: {recommended}
      <u>Altitude Encoding Method</u>: {recommended}
Depth System Definition:
      <u>Depth Datum Name</u>: {recommended, if applicable}
      <u>Depth Resolution</u>: {recommended}
      <u>Depth Distance Units</u>: {recommended}
      <u>Depth Encoding Method</u>: {recommended}

SPATIAL REFERENCE INFORMATION - The description of the reference frame for, and the means to encode, coordinates in the data set.
FGDC Reference: 4.0

> **Horizontal Coordinate System Definition** - The reference frame or system from which linear or angular quantities are measured and assigned to the position that a point occupies. Although the FGDC standard has provisions for Geographic, Planar, or Local coordinate systems, only the Planar is described here since it by far the most common system in use in the BLM. Refer to the FGDC standard for information about the other systems.
> FGDC Reference: 4.1

>> **Planar** - The quantities of distances, or distances and angles, which define the position of a point on a reference plane to which the surface of the Earth has been projected.
>> FGDC Reference 4.1.2

>>> **Map Projection** - The systematic representation of all or part of the surface of the Earth on a plane or developable surface.
>>> FGDC Reference: 4.1.2.1

>>>> Map Projection Name: The name of the map projection.
>>>> FGDC Reference: 4.1.2.1.1

>>>> Standard Parallel: A line of constant latitude at which the surface of the Earth and the plane or developable surface intersect. Some map projections use two standard parallels.
>>>> FGDC Reference: 4.1.2.1.23.1

>>>> Longitude of Central Meridian: The line of longitude at the center of a map projection generally used as the basis for constructing the projection.
>>>> FGDC Reference: 4.1.2.1.23.2

>>>> Latitude of Projection Origin: Latitude chosen as the origin of rectangular coordinates for a map projection.
>>>> FGDC Reference: 4.1.2.1.23.3

>>>> False Easting: The value added to all "x" values in the rectangular coordinates for a map projection. This value frequently is assigned to eliminate negative numbers. Expressed in the unit of measure identified in Planar Coordinate Units.
>>>> FGDC Reference: 4.1.2.1.23.4

False Northing: The value added to all "y" values in the rectangular coordinates for a map projection. This value frequently is assigned to eliminate negative numbers. Expressed in the unit of measure identified in Planar Coordinate Units.
FGDC Reference: 4.1.2.1.23.5

Grid Coordinate System - A plane-rectangular coordinate system usually based on, and mathematically adjusted to, a map projection so that geographic positions can be readily transformed to and from plane coordinates.
FGDC Reference: 4.1.2.2

Grid Coordinate System Name: Name of the grid coordinate system. Examples: "Universal Transverse Mercator (UTM)", "State Plane Coordinates"
FGDC Reference: 4.1.2.2.1

Universal Transverse Mercator (UTM) - A grid system based on the transverse mercator projection, applied between latitudes 84 degrees north and 80 degrees south on the Earth's surface.
FGDC Reference: 4.1.2.2.2

UTM Zone Number: Identifier for the UTM Zone. Domain: 1 < = UTM Zone Number < = 60 for the northern hemisphere
FGDC Reference: 4.1.2.2.2.1

State Plane Coordinate System (SPCS) - A plane-rectangular coordinate system established for each state in the United States by the National Geodetic Survey.
FGDC Reference: 4.1.2.2.4

SPCS Zone: Identifier for the SPCS zone. Domain: Four-digit numeric codes for the State Plane Coordinate Systems based on the North American Datum of 1927 are found in Department of Commerce, 1986, Representation of geographic point locations for information interchange (Federal Information Processing Standard 70-1): Washington: Department of Commerce, National Institute of Standards and Technology. Codes for the State Plane Coordinate Systems based on the North American Datum of 1983 are found in Department of Commerce, 1989 (January), State Plane Coordinate

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System of 1983 (National Oceanic and Atmospheric Administration Manual NOS NGS 5): Silver Spring, Maryland, National Oceanic and Atmospheric Administration, National Ocean Service, Coast and Geodetic Survey.
FGDC Reference: 4.1.2.2.4.1

Planar Coordinate Information - Information about the coordinate system developed on the planar surface.
FGDC Reference: 4.1.2.4

Planar Coordinate Encoding Method: The means used to represent horizontal positions. Although either "coordinate pairs" or "distance and bearing" can be used, only the information for coordinate pairs is shown here since it is the predominant method used in the BLM.
FGDC Reference: 4.1.2.4.1

Coordinate Representation - The method of encoding the position of a point by measuring its distance from perpendicular reference axes.
FGDC Reference: 4.1.2.4.2

Abscissa Resolution: The (nominal) minimum distance between the "x" or column values of two adjacent points, expressed in Planar Distance Units of Measure.
FGDC Reference: 4.1.2.4.2.1

Ordinate Resolution: The (nominal) minimum distance between the "y" or row values of two adjacent points, expressed in Planar Distance Units of Measure.
FGDC Reference: 4.1.2.4.2.2

Planar Distance Units: Units of measure used for distances.
Examples: "meters", "survey feet".
FGDC Reference: 4.1.2.4.4

Geodetic Model - Parameters for the shape of the earth.
FGDC Reference: 4.1.4

Horizontal Datum Name: The identification given to the reference system used for defining the coordinates of points. Examples: "North American Datum of 1927", "North American Datum of 1983".

FGDC Reference: 4.1.4.1

Ellipsoid Name: Identification given to established representation of the Earth's shape. Example: "Clarke 1866".
FGDC Reference: 4.1.4.2

Semi-major Axis: Radius of the equatorial axis of the ellipsoid. Real number greater than 0.0.
FGDC Reference: 4.1.4.3

Denominator of Flattening Ratio: The denominator of the ratio of the difference between the equatorial and polar radii of the ellipsoid when the numerator is set to 1.
FGDC Reference: 4.1.4.4

Vertical Coordinate System Definition - The reference frame or system from which vertical distances (altitudes or depths) are measured.
FGDC Reference: 4.2

 Altitude System Definition - The reference frame or system from which altitudes (elevations) are measured.
FGDC Reference: 4.2.1

  Altitude Datum Name: The identification given to the level surface taken as the surface of reference from which altitudes are measured. Examples: "National Geodetic Vertical Datum of 1929", "North American Vertical Datum of 1988".
FGDC Reference: 4.2.1.1

  Altitude Resolution: The minimum distance possible between two adjacent altitude values, expressed in Altitude Distance Units of Measure. Real number greater than 0.0.
FGDC Reference: 4.2.1.2

  Altitude Distance Units: Units in which altitudes are recorded. Examples: "meters", "feet".
FGDC Reference: 4.2.1.3

  Altitude Encoding Method: The means used to encode the altitudes. Examples: "explicit elevation coordinate included with horizontal coordinates", "implicit coordinate", "attribute values".
FGDC Reference: 4.2.1.4

Depth System Definition - The reference frame or system from which depths are measured.
FGDC Reference: 4.2.2

Depth Datum Name: The identification given to surface of reference from which depths are measured. Examples: "local surface", "chart datum", "mean low water", "mean high water", "land survey datum".
FGDC Reference: 4.2.2.1

Depth Resolution: The minimum distance possible between two adjacent depth values, expressed in Depth Distance Units of Measure. Real number greater than 0.0.
FGDC Reference: 4.2.2.2

Depth Distance Units: Units in which depths are recorded. Examples: "meters", "feet".
FGDC Reference: 4.2.2.3

Depth Encoding Method: The means used to encode depths. Examples: "explicit depth coordinate included with horizontal coordinates", "implicit coordinate", "attribute values".
FGDC Reference: 4.2.2.4

<u>Entity and Attribute Information</u>

    Detailed Description:
        Entity Type:
            <u>Entity Type Label</u>: {recommended}
            <u>Entity Type Definition</u>: {recommended}
            <u>Entity Type Definition Source</u>: {recommended}
        Attribute:
            <u>Attribute Label</u>: {recommended}
            <u>Attribute Definition</u>: {recommended}
            <u>Attribute Definition Source</u>: {recommended}
            Attribute Domain Values:
                <u>Unrepresentable Domain</u>: {recommended}
                Enumerated Domain:
                    <u>Enumerated Domain Value</u>: {recommended}
                    <u>Enumerated Domain Value Definition</u>: {recommended}
                    <u>Enumerated Domain Value Definition Source</u>: {recommended}
                Range Domain:
                    <u>Range Domain Minimum</u>: {recommended}
                    <u>Range Domain Maximum</u>: {recommended}
                    <u>Attribute Units of Measure</u>: {recommended}
                    <u>Attribute Measurement Resolution</u>: {recommended}
                Codeset Domain:
                    <u>Codeset Name</u>: {recommended}
                    <u>Codeset Source</u>: {recommended}
        Overview Description:
            <u>Entity and Attribute Overview</u>: {required}
            <u>Entity and Attribute Detail Citation</u>: {recommended}

ENTITY AND ATTRIBUTE INFORMATION - Information about the content of the data set, including entities, attributes, and the domains from which attribute values may be assigned. The FGDC standard allows for either the entry of Detailed Description or an Overview Description. While a Detailed Description gives much more information for the potential user of the data it is not absolutely required. If you do not provide the information called for under Detailed Description, then you must supply the Overview Description information.
FGDC Reference: 5.0

    Detailed Description - Description of the entities, attributes, attribute values, and related characteristics encoded in the data set.
    FGDC Reference: 5.1

Entity Type - The definition and description of a set into which similar entity instances are classified.
FGDC Reference: 5.1.1

    Entity Type Label: The name of the entity. This is the spatial object being portrayed in this data set. For example: "Grazing Allotments".
    FGDC Reference: 5.1.1.1

    Entity Type Definition: The description of the entity. This is a detailed description of the entity including any information on how to display the entity. For example: "Grazing allotments as described and mapped in the Allotment Management Plan".
    FGDC Reference: 5.1.1.2

    Entity Type Definition Source: The authority or source of the entity definition. This could be, for example, a reference to BLM Manuals/Handbooks or to standard professional references.
    FGDC Reference: 5.1.1.3

Attribute - Defined characteristics of the entity. These fields may be repeated as often as needed to document the attributes associated with the data set.
FGDC Reference: 5.1.2

    Attribute Label: The name of the attribute. Example: "Road Surface Type".
    FGDC Reference: 5.1.2.1

    Attribute Definition: The description of the attribute. For example: "The type of material covering the surface of the road."
    FGDC Reference: 5.1.2.2

    Attribute Definition Source: The authority or source of the attribute definition. This could be, for example, a reference to BLM Manuals/Handbooks or to standard professional references.
    FGDC Reference: 5.1.2.3

    Attribute Domain Values - Valid values that can be assigned for an attribute. This could be a listing of valid values, an allowable range of values, or a set of codes that are valid.
    FGDC Reference: 5.1.2.4

        Enumerated Domain - The members of an established set of valid values. An enumerated domain is one comprised of a list of

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values. A "road type" attribute may have an enumerated domain which contains the values "heavy duty," "medium duty," "light duty," and "trail." In this case, the list of possible values, the definitions of the values, and the sources of the definitions should be provided.
FGDC Reference: 5.1.2.4.1

Enumerated Domain Value: The name or label of a member of the set.
FGDC Reference: 5.1.2.4.1.1

Enumerated Domain Value Definition: The description of the value.
FGDC Reference: 5.1.2.4.1.2

Enumerated Domain Value Definition Source: The authority of the definition
FGDC Reference: 5.1.2.4.1.3

Range Domain - The minimum and maximum values of a continuum of valid values. A range domain is one comprised of a sequence, series, or scale of (usually numeric) values between limits. For example, an attribute of age might have a range domain of integers from 0 to 100. In this case, the minimum and maximum values should be provided.
FGDC Reference: 5.1.2.4.2

Range Domain Minimum: The least value that the attribute can be assigned.
FGDC Reference: 5.1.2.4.2.1

Range Domain Maximum: The greatest value that the attribute can be assigned.
FGDC Reference: 5.1.2.4.2.2

Attribute Units of Measure: The standard of measurement for an attribute value. Examples: inches, pounds, miles, feet, meters, million board feet.
FGDC Reference: 5.1.2.5

Attribute Measurement Resolution: The smallest unit increment to which an attribute value is measured.
FGDC Reference: 5.1.2.6

Codeset Domain - Reference to a standard or list which contains the members of an established set of valid values. A codeset domain is one in which the data values are defined by a set of codes. Examples include the Federal Information Processing Standards that contain numeric codes for nations, States, and counties. In this case, the title of the publication contains the code set and the source of the codeset should be provided.
FGDC Reference: 5.1.2.4.3

Codeset Name: The title of the codeset.
FGDC Reference: 5.1.2.4.3.1

Codeset Source: The authority for the codeset.
FGDC Reference: 5.1.2.4.3.2

Unrepresentable Domain: Description of the values and reasons why they cannot be represented. An unrepresentable domain is one for which the set of data values cannot be represented. Reasons include attributes whose values do not exist in a known, predefined set (for example, the values of an attribute of people's names), or attributes whose values cannot be depicted using the forms of representation (available character set, etc.) used for metadata. In these cases, the information content of the set of values should be provided.
FGDC Reference: 5.1.2.4.4

Overview Description - Summary of, and citation to, detailed description of the information content of the data set.
FGDC Reference: 5.2

Entity and Attribute Overview: Detailed summary of the information contained in a data set.
FGDC Reference: 5.2.1

Entity and Attribute Detail Citation: Reference to the complete description of the entity types, attributes, and attribute values for the data set.
FGDC Reference: 5.2.2

Distribution Information

Distributor:
  Contact Information:
    Contact Person Primary:
      Contact Person: {required}
      Contact Organization: {required}
    Contact Position: {required}
    Contact Address:
      Address Type: {required}
      Address: {required}
      City: {required}
      State or Province: {required}
      Postal Code: {required}
      Country: {required}
    Contact Voice Telephone:{required}
    Contact TDD/TTY Telephone: {recommended}
    Contact Facsimile Telephone: {recommended}
    Contact Electronic Mail Address: {recommended}
    Hours of Service: {recommended}
    Contact Instructions: {recommended}
  Distribution Liability: {required}
  Standard Order Process:
    Digital Form:
      Digital Transfer Information:
        Format Name: {required}
        Format Specification: {required}
        File Decompression Technique: {required}
      Digital Transfer Option:
      Online Option:
        Access Instructions: {required}
      Offline Option:
        Offline Media: {required}
        Recording Capacity:
          Recording Density: {required}
          Recording Density Units: {required}
        Recording Format: {required}
        Compatibility Information: {recommended}
    Fees: {required}
    Ordering Instructions: {required}
   Custom Order Process: {recommended}

DISTRIBUTION INFORMATION - Information about the distributor of and options for obtaining the data set.
FGDC Reference: 6.0

Distributor - The party from whom the data set may be obtained.
FGDC Reference: 6.1

Contact Person: The person from whom the data set can be obtained.
FGDC Reference: 6.1/10.1.1

Contact Organization: The name of the organization from which the data can be obtained.
FGDC Reference: 6.1/10.1.2

Contact Position: The title of the person from whom the data set can be obtained.
FGDC Reference: 6.1/10.3

Address Type: The information provided by the address. Is the address the mailing address, the physical address, or both. Entries must be either "mailing address", "physical address", or "mailing and physical address".
FGDC Reference: 6.1/10.4.1

Address: An address line for the address. Use as many lines as are necessary to provide the complete address.
FGDC Reference: 6.1/10.4.2

City: The city of the address.
FGDC Reference: 6.1/10.4.3

State or Province: The State of the address. Use postal 2 character code (e.g., OR=Oregon, WA=Washington, CA=California).
FGDC Reference: 6.1/10.4.4

Postal Code: The postal zip code of the address. May be either 5- or 10-character code (99999-9999).
FGDC Reference: 6.1/10.4.5

Country: The country of the address. For BLM this would be USA.
FGDC Reference: 6.1/10.4.6

Contact Voice Telephone: The telephone number by which individuals can speak to the organization or the individual from which the data can be obtained.

Includes the area code). Example: (503) 952-6009.
FGDC Reference: 6.1/10.5

Contact TDD/TTY Telephone: The telephone number by which hearing-impaired individuals can contact the organization or individual.
FGDC Reference: 6.1/10.6

Contact Facsimile Telephone: The telephone number of a facsimile machine of the organization or individual.
FGDC Reference: 6.1/10.7

Contact Electronic Mail Address: The address of the electronic mailbox of the organization or individual.
FGDC Reference: 6.1/10.8

Hours of Service: Time period when individuals can speak to the organization or individual.
FGDC Reference: 6.1/10.9

Contact Instructions: Supplemental instructions on how or when to contact the individual or organization.
FGDC Reference: 6.1/10.10

Distribution Liability: Statement of the liability assumed by the distributor. Use the BLM disclaimer statement for Nonpublic records found in BLM Manual 1278. See Appendix C for the standard entry for this element.
FGDC Reference: 6.3

Standard Order Process - The common ways in which the data set may be obtained or received, and related instructions and fee information.
FGDC Reference: 6.4

Digital Transfer Information - Description of the form of the data to be distributed.
FGDC Reference: 6.4.2.1

Format Name: The name of the data transfer-format. Examples: "ARCE" (ARC/INFO Export), "DLG" (Digital Line Graph), "MOSS" (Multiple Overlay Statistical System Export), "SDTS" (spatial-data transfer standard).
FGDC Reference: 6.4.2.1.1

Format Specification: Name of a subset, profile, or product specification

of the format.
FGDC Reference: 6.4.2.1.4

File Decompression Technique: Recommendations of algorithms or processes that can be applied to read or expand data sets to which data compression techniques have been applied.
FGDC Reference: 6.4.2.1.6

Online Option - information required to directly obtain the data set electronically.
FGDC Reference: 6.4.2.2.1

Access Instructions: instructions on the steps required to access the data set. An example would be instructions on how to use an FTP site to download data.
FGDC Reference: 6.4.2.2.1.2

Offline Option - Information about media-specific options for receiving the data set.
FGDC Reference: 6.4.2.2.2

Offline Media: Name of the media on which the data set can be received. Examples: "9-track tape", "8 mm cartridge", "CD-ROM", "3-1/2" floppy disk".
FGDC Reference: 6.4.2.2.2.1

Recording Density: The density in which the data set can be recorded. Real number greater than 0.0.
FGDC Reference: 6.4.2.2.2.2.1

Recording Density Units: The units of measure for the recording density.
FGDC Reference: 6.4.2.2.2.2.2

Recording Format: The options available or method used to write the data set to the medium. Examples: "TAR", "CPIO", "High Sierra".
FGDC Reference: 6.4.2.2.2.3

Compatibility Information: Description of other limitations or requirements for using the medium.
FGDC Reference: 6.4.2.2.2.4

Fees: The fees and terms for providing copies or outputs of the data set. Fees

are dependent on the data classification (Discretionary or Nonpublic) recorded in section 1.7. See BLM Manual 1270-2 Cost Recovery for fee schedule. See Appendix D for standard entries for this element.
FGDC Reference: 6.4.3

Ordering Instructions: General instructions and advice about, and special terms and services provided for, the data set by the distributor.

Custom Order Process: Description of custom-distribution services available, and the terms and conditions for obtaining these services.

Metadata Reference Information

    Metadata Date: {required}
    Metadata Review Date: {required}
    Metadata Future Review Date: {recommended}
    Metadata Contact:
      Contact Information:
        Contact Person Primary:
          Contact Person: {required}
          Contact Organization: {required}
        Contact Position: {recommended}
        Contact Address:
          Address Type: {required}
          Address: {required}
          City: {required}
          State or Province: {required}
          Postal Code: {required}
          Country: {recommended}
        Contact Voice Telephone: {required}
        Contact TDD/TTY Telephone: {recommended}
        Contact Facsimile Telephone: {recommended}
        Contact Electronic Mail Address: {recommended}
        Hours of Service: {recommended}
        Contact Instructions: {recommended}
    Metadata Standard Name: {required}
    Metadata Standard Version: {required}

METADATA REFERENCE INFORMATION - Information on the currentness of the metadata and the party(s) responsible for the metadata.
FGDC Reference: 7.0

    Metadata Date: The date that the metadata was created. Use the format YYYYMMDD.
    FGDC Reference: 7.1

    Metadata Review Date: The date of the latest update/review of the metadata. Must be later than "Metadata Date". Date to be entered as: YYYYMMDD.
    FGDC Reference: 7.2

Metadata Future Review Date: The date by which the metadata entry should be reviewed. Must be later than "Metadata Review Date" (Metadata Date if the metadata has never been reviewed/updated). Date to be entered as: YYYYMMDD.
FGDC Reference: 7.3

Metadata Contact - The party responsible for the metadata information.
FGDC Reference: 7.4/Section 10

>   Contact Person: The person responsible for the metadata entry (but not the actual data in the data set). See "Point of Contact (Data Steward)" for contact knowledgeable about the actual data.
>   FGDC Reference: 7.4/10.1.1
>
>   Contact Organization: The name of the organization responsible for the metadata entry.
>   FGDC Reference: 7.4/10.1.2
>
>   Contact Position: The title of the person responsible for the metadata entry.
>   FGDC Reference: 7.4/10.3
>
>   Address Type: The information provided by the address. Is the address the mailing address, the physical address, or both. Entries must be either "mailing address", "physical address", or "mailing and physical address".
>   FGDC Reference: 7.4/10.4.1
>
>   Address: An address line for the address. Use as many lines as are necessary to provide the complete address.
>   FGDC Reference: 7.4/10.4.2
>
>   City: The city of the address.
>   FGDC Reference: 7.4/10.4.3
>
>   State or Province: The State of the address. Use postal 2 character code (e.g., OR=Oregon, WA=Washington, CA=California).
>   FGDC Reference: 7.4/10.4.4
>
>   Postal Code: The postal zip code of the address. May be either 5- or 10-character code (99999-9999).
>   FGDC Reference: 7.4/10.4.5
>
>   Country: The country of the address. For BLM this would be USA.
>   FGDC Reference: 7.4/10.4.6

Contact Voice Telephone: The telephone number by which individuals can speak to the organization or individual responsible for the metadata entry. Include the area code. Example: (503)952-6009.
FGDC Reference: 7.4/10.5

Contact TDD/TTY Telephone: The telephone number by which hearing-impaired individuals can contact the organization or individual.
FGDC Reference: 7.4/10.6

Contact Facsimile Telephone: The telephone number of a facsimile machine of the organization or individual.
FGDC Reference: 7.4/10.7

Contact Electronic Mail Address: The address of the electronic mailbox of the organization or individual.
FGDC Reference: 7.4/10.8

Hours of Service: Time period when individuals can speak to the organization or individual.
FGDC Reference: 7.4/10.9

Contact Instructions: Supplemental instructions on how or when to contact the individual or organization.
FGDC Reference: 7.4/10.10

Metadata Standard Name: The name of the metadata standard used to document the data set. The entry in this field should always be: "FGDC Content Standards for Digital Geospatial Metadata".
FGDC Reference: 7.5

Metadata Standard Version: The version of the metadata standard used to document the data set. The entry in this field should be: "FGDC-STD-001-1998".
FGDC Reference: 7.6

Appendix A
Keywords

Theme Keywords

Theme keywords are used as an aid in searching a metadata database for relevant data sets for a person's needs based on the subject matter of the data set. This keyword list should be referred to as the "BLM-Theme" keyword thesaurus. Other theme keywords may be used (and are encouraged) but at least one of these keywords are required.

BLM-THEME

Air Quality	Lands
Climate	Minerals
Cultural Resources	Range
Fire	Recreation
Fish	Riparian
Forestry	Soils
Framework	Special Management Areas
Geology	Transportation
Human Dimension	Vegetation
Hydrography	Wildlife
Land Use Planning	

Place Keywords

Place keywords are used as an aid in searching a metadata database for relevant data sets for a person's needs based on the geographic area covered by the data set. This keyword list should be referred to as the "BLM-State" keyword thesaurus. This keyword thesaurus is based on the logical data element "State" from the Corporate Metadata Repository which contains the valid names for the 50 States and the District of Columbia. Other place keywords may be used (and are encouraged) but at least one of these keywords are required.

BLM-STATE

Alabama	Illinois	Montana	Rhode Island
Alaska	Indiana	Nebraska	South Dakota
Arizona	Iowa	Nevada	South Carolina
Arkansas	Kansas	New Jersey	Tennessee
California	Kentucky	New Hampshire	Texas
Colorado	Louisiana	New York	Utah
Connecticut	Maine	New Mexico	Vermont
Delaware	Maryland	North Carolina	Virginia
District of Columbia	Massachusetts	North Dakota	Washington
Florida	Michigan	Ohio	West Virginia
Georgia	Minnesota	Oklahoma	Wisconsin
Hawaii	Mississippi	Oregon	Wyoming
Idaho	Missouri	Pennsylvania	

Access Restrictions

Categorized by BLM as **Discretionary** - Available for release (contains no sensitive data).
   Example: Discretionary, contains no sensitive information - generally considered releasable.

Categorized by BLM as **Nonpublic** - Must be requested through a written Freedom of Information Act request. Will need to add a sentence based on whether the data are sensitive (such as Cultural Site locations) and, therefore, whether the data are releasable.
   Example: Nonpublic, contains sensitive information generally not releasable under the Freedom of Information Act.

Appendix C
Distribution Liability

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

For **Discretionary** data sets:

> Fee determined as actual cost of providing the requested information, based on BLM Cost Recovery fee schedule. Includes cost of media, computer operator search time, and $8.00 administrative fee.

For **Nonpublic** data sets:

> Fee determined as actual cost of providing the requested information, based on Freedom of Information Act fee schedule. Includes cost of media, and computer operator search time.